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Precise Prediction of the Dark Matter Relic Density within the MSSM

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With the latest Planck results the dark matter relic density is determined to an unprecedented precision. In order to reduce current theoretical uncertainties in the dark matter relic density prediction, we have calculated next-to-leading order SUSY-QCD corrections to neutralino (co)annihilation processes including Coulomb enhancement effects. We demonstrate that these corrections can have significant impact on the cosmologically favoured MSSM parameter space and is thus of general interest for parameter studies and global fits.

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